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(54) ELECTRONIC DEVICE WITH GLASS **ENCLOSURE**

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(Continued)

(56)References Cited

U.S. PATENT DOCUMENTS

4,106,839 A 8/1978 Cooper

4,256,412 A * 3/1981 Tybus B64C 13/30 403/267

(Continued)

FOREIGN PATENT DOCUMENTS

101087500 102159045

CN CN

12/2007 8/2011

(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 16/142,285, filed Sep. 26, 2018, pending. (Continued)

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(57)ABSTRACT

An electronic device includes a six-sided glass enclosure defining an interior volume and comprising a first glass member and a second glass member. The first glass member defines at least a portion of a first major side of the six-sided glass enclosure, at least a portion of a peripheral side of the six-sided glass enclosure, a first region along the peripheral side and having a first thickness, and a second region along the peripheral side and having a second thickness different from the first thickness. The second glass member is attached to the first glass member and defines at least a portion of a second major side of the six-sided glass enclosure. The electronic device further includes a touchscreen display within the interior volume and positioned adjacent at least a portion of each of the six sides of the six-sided glass enclosure.

20 Claims, 92 Drawing Sheets

